

The Quality of Life Impact of Refractive Correction (QIRC)

Instructions for use and scoring

Welcome to QIRC, a questionnaire designed to measure the Quality of Life (QoL) of people who require an optical correction (spectacles, contact lenses and/or refractive surgery). QIRC consists of 20 questions scored on a 5-category response scale. Responses are converted to Rasch weighted scores to give a true measure of refractive error related quality of life. QIRC can be used for research or as a routine clinical measure of QoL (e.g. in a refractive surgery setting for outcome audit). Typical research applications include studies comparing two contact lens types (e.g. two brands), two types of refractive surgery (e.g. LASIK vs. LASEK) etc..

General instructions

1. The QIRC questionnaire is self-administered and should take 3-5 minutes to fill it out. It could easily be completed while patients are in the waiting room before the eye examination.
2. Although the instructions are self-explanatory, it may pay to suggest to patients they read the instructions carefully. The wording of questions varies across issues e.g. ability, convenience or concerns at the present time or symptoms or feelings over a period of time, such as during the last month.
3. All response scales include 6 choices (see example below) and patients should consider their answers using each possible choice. It is not uncommon for patients to find one or more question that is not applicable to them and the 'Don't know or not applicable' choice should be used in these cases.
4. Patients should be advised to note the instructions for questions 14 to 20 which concern well-being in relation to their refractive correction: "We are now interested in the effect that your optical correction (refractive surgery, plus possible spectacle and/or contact lenses) have had on the way you have been

feeling. The effect on your feelings may be obvious (e.g., you may feel that you look better without spectacles) or it may be indirect (e.g., you may feel more confident after refractive surgery because you feel that you look better)”.

Example: Please tick the appropriate box.

How much difficulty do you have recognising faces across the street?

Not applicable 0	None at all 1	A little bit 2	A moderate amount 3	A lot 4	So much that I can't do this activity 5
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The following files are provided:

- 📎 3 versions of the QIRC questionnaire which vary only in the instructions for the target population. Choose the most appropriate version for your purpose.
- 📎 Scoring table
- 📎 Excel file for data analysis

Scoring system

- a. Questions are answered on a 5-category response scale (1, 2, 3, 4, 5) plus ‘Not applicable’. ‘Not applicable’ or items left blank are considered as missing data and are not taken into account when calculating the QIRC scores. Score ‘Not applicable’ or missing data as ‘0’ in the Excel file.
- b. The excel file converts the original numeric values (0, 1, 2, 3, 4, 5) into Rasch scaled QIRC scores to fit a 0-100 scale. By inserting patient’s scores on the ‘Raw data’ spreadsheet each numeric value is automatically converted on the ‘Converted score’ spreadsheet to a 0-100 QIRC score.

- c. In the case of patients with more than one refractive correction, e.g. a patient answers both for when they are wearing spectacles (S) and/or contact lenses (C), two QIRC scores are possible. In the simplest case (e.g. routine clinical measurement of QoL) we recommend using the response from their predominantly used refractive correction. However, in a research setting where the study was comparing contact lenses, one would use the C (contact lens) scores.
- d. In all questions, higher QIRC scores represent better quality of life. Therefore, for questions 1 to 13 regarding visual function, symptoms, convenience and concerns, the positive adjectival descriptor is assigned to the lowest rating scale (1); for the remaining questions 14 to 20 regarding social well-being the positive adjectival descriptor is assigned to the highest rating scale (5). This conversion is automatically performed on the 'Converted score' spreadsheet.
- e. For data analysis on questions 1 to 13 the responses 'a moderate amount', 'quite a lot' and 'extreme' are combined; likewise, on questions 14 to 20 the responses 'never' and 'occasionally' are combined. This optimises the measurement properties of the instrument. This is also automatically performed on the 'Converted score' spreadsheet.
- f. One can find on the 'scoring table' document the assigned scores for each item corresponding to the response category selected.

If you have any questions or need any further advice, please contact:

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